




Module 4

VSMP Law and Regulations





Why do we treat stormwater runoff?



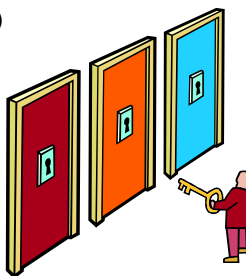


Establishment of VSMP
(§62.1-44.15:27)




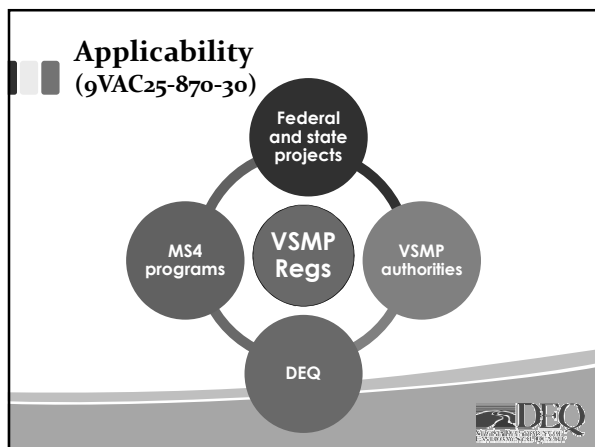


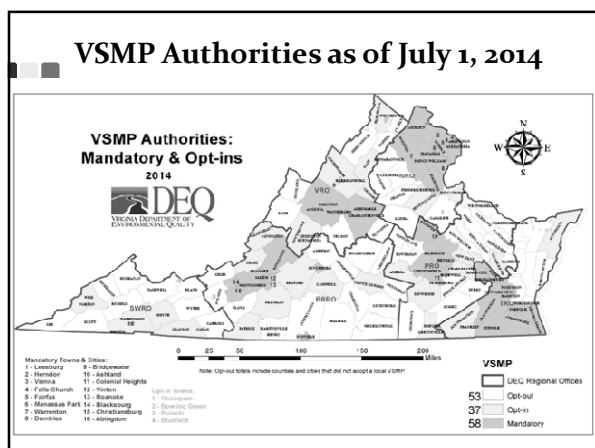
Establishment of VSMP (§62.1-44.15:27)



All other localities may choose to adopt a program. If they do not adopt, DEQ will administer the program for them.









Regulated Land-Disturbing Activities (LDA)

Land-Disturbing Activities (LDA)		
≥ 1 acre or part of a larger common plan of development or sale ≥ 1 acre	≥ 2,500 sq. ft. in Chesapeake Bay Preservation Areas	More stringent area as required by local ordinance





Definitions (§62.1-44.15:24)

- Agreement in lieu of a stormwater management plan
 - Contract between VSMP authority and owner or permittee
 - Single-family residences only



Exemptions (§62.1-44.15:34)

Development of Regulations (§62.1-44.15:28)

Post - development runoff
characteristics and site
hydrology

Pre-development runoff
characteristics and site
hydrology

Balance

Or improve if there was channel erosion or flooding

Development of Regulations (§62.1-44.15:28)


Encouraged!

- LID
- Stormwater reuse
- Regional and watershed approaches
- Nonstructural ways to control stormwater

SWPPP Requirements (9VAC25-870-54)

9 Performance Requirements of the SWPPP (9VAC25-870-54)


Stormwater volume and velocity	Stormwater discharges	Soil exposure
Steep slopes	Sediment discharges	Natural buffers and vegetated areas
Soil compaction and topsoil	Stabilization	Outlet structures



Stormwater Management Plans (9VAC25-870-55)


Approved before start of LDA

Covers post construction stormwater management



Stormwater Management Plans (9VAC25-870-55)


Stormwater discharges	Contact information	Narrative
Stormwater management facilities description and info	Hydrologic and hydraulic computations	Documentation and calculations
Maps	Off-site requirements	Fee and form



Stormwater Management Plans

(9VAC25-870-55)

- End of construction:
 - Construction record drawing for permanent stormwater management facilities ("as-built") must be submitted to the VSMP authority **with seal and signature of a Virginia registered professional**



Pollution Prevention Plans (P2Plan)

(9VAC25-870-56)

Minimize:











Pollution Prevention Plans (P2Plan)

(9VAC25-870-56)



Prohibit discharges from:



Responsibility for Long-term Maintenance of Permanent Stormwater Management Facilities(9VAC25-870-58)

- Prepared and submitted to VSMP authority **before** the stormwater management plan can be approved

Technical Criteria for Regulated Land-Disturbing Activities

Post-development treatment volume (TV) water quality

+

Post-development onsite volume reduction water quantity


=

Part II B



Water Quality Design Criteria (9VAC25-870-63)

Phosphorous

New development


Re-development



Water Quality Design Criteria
(9VAC25-870-63)


New development

Phosphorous (P) cannot exceed **0.41 lbs./acre/year**

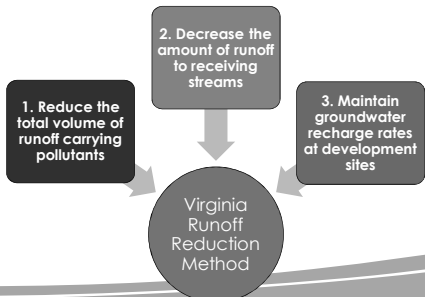



Development on prior developed land:
LDA **DOES NOT** increase impervious cover

<p>LDA ≥ 1 acre</p> <p>P must be reduced at least 20% below pre-development P load</p>	<p>LDA < 1 acre</p> <p>P must be reduced at least 10% below pre-development P load</p>
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Water Quality Compliance
(9VAC25-870-65)

Channel Protection: Energy Balance Equation

1-year 24-hour storm

- Post-development peak flow rate cannot be greater than the pre-development
- Post-development peak flow rate cannot be required to be better than a site in forested condition

(as adjusted for volume)



Energy balance equation (40VAC50-60-65)

$$Q_{\text{post}} \leq \text{I.F.} \times (Q_{\text{pre}} \times RV_{\text{pre}}) / RV_{\text{post}} \text{ or}$$

$$(Q_{\text{post}} \times RV_{\text{post}}) \leq \text{I.F.} \times (Q_{\text{pre}} \times RV_{\text{pre}})$$

Where

- Q_{pre} = Pre-development peak flow rate (cfs)
- RV_{pre} = Pre-development runoff volume (in.)
- Q_{post} = Post-development peak flow rate (cfs)
- RV_{post} = Post development runoff volume (in.)
- I.F. = Improvement factor (0.8 for sites >1 acre, 0.9 for sites < 1 acre)

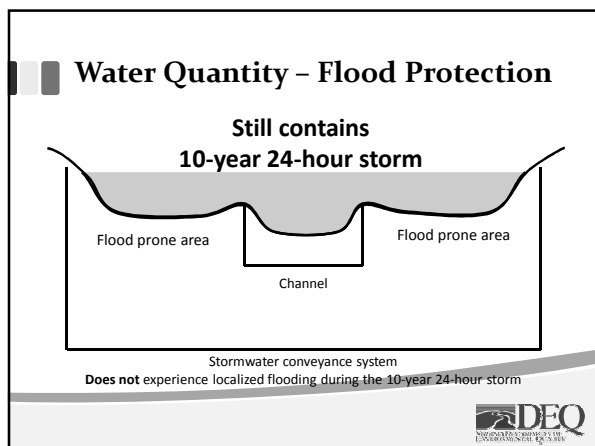


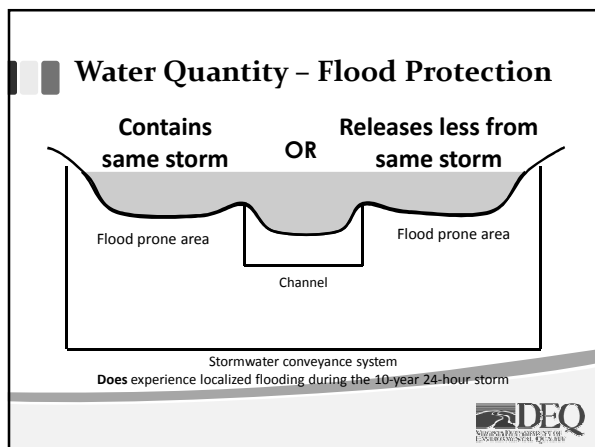
Water Quantity – Flood Protection

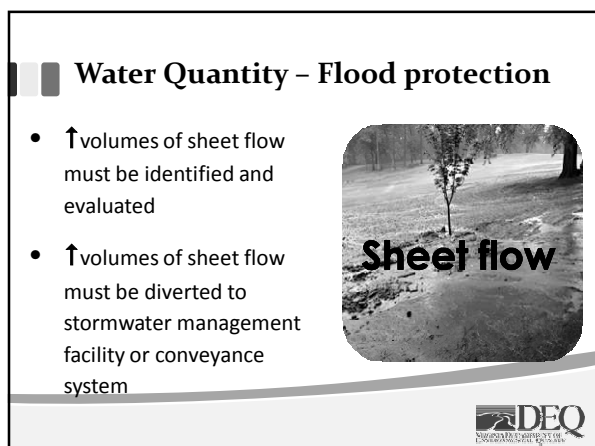
• Goal

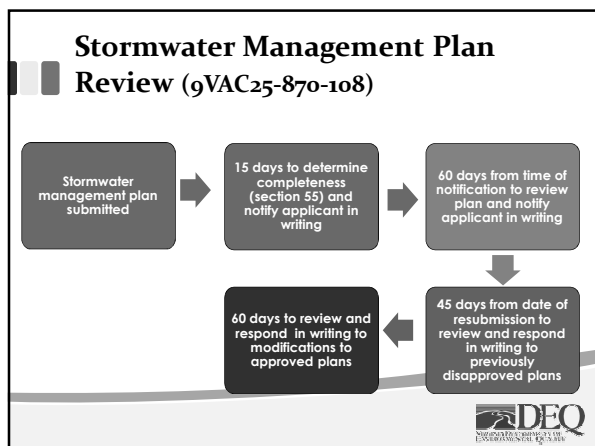
- Prevent flood damage to the conveyance system and drainage infrastructure
- Reduce minor flooding caused by over-bank floods
- Protect downstream structures, culverts, and bridges from increased over-bank flooding











Long-Term Maintenance of Permanent Stormwater Management Facilities (9VAC25-870-112)

- Submitted for review and approval before approval of stormwater management plan
- Stated to run with the land
- Provide access to the property for maintenance and regulatory inspections

DEQ
DEPARTMENT OF ENVIRONMENTAL QUALITY

Long-Term Maintenance


- Provide for inspections and maintenance and submission of reports to VSMP authority
- Enforceable by all government parties
- Recorded with local land records before permit termination

DEQ
DEPARTMENT OF ENVIRONMENTAL QUALITY

Inspections (9VAC25-870-114)


During construction, VSMP authority must **periodically** inspect the LDA for:

- Compliance with approved ESC plan and stormwater management plan
- Updating and implementing a P2 plan
- Implementing any additional control measures necessary to address a TMDL





Inspections (9VAC25-870-114)

- VSMP authority must establish a **post-construction** inspection program:
 - Be approved by Board
 - Ensure each facility is inspected at least once every 5 years
 - Be document by records



Enforcement (9VAC25-870-116)


- The locality's VSMP authority has the discretion to impose a maximum penalty of **\$32,500** per violation per day

Enforcement (9VAC25-870-116)


Violations can include:

- No state permit registration
- No SWPPP, incomplete SWPPP, or SWPPP not available for review
- No approved ESC plan
- Failure to install, improperly install or maintain BMPs or ESCs
- Operational deficiencies
- Failure to conduct required inspections
- Incomplete, improper, or missed inspections



ESC and VSMP Violations

ESC	VSMP
<ul style="list-style-type: none"> • Class I misdemeanor 	<ul style="list-style-type: none"> • Misdemeanor or Felony
<ul style="list-style-type: none"> • \$100 to \$1,000 per violation per day not to exceed \$10,000 	<ul style="list-style-type: none"> • Misdemeanor – <12 months jail and \$2,500 to \$32,500 per day maximum or \$10,000 for company
<ul style="list-style-type: none"> • Civil violation (court) of \$2,000 per day 	<ul style="list-style-type: none"> • Felony – 1-3 years jail and \$5,000 to \$50,000 per day or \$10,000 for company





Questions?